

Mens names.

Mr. Sewel	*	Mr. Morris
Mr. Hand	*	Mr. Bates
Mr. Willmot	* died,	Mr. Thompson *
Mr. Letts		Burton, apprentice
Mr. Chaddock	*	Dobie, ditto *
Mr. Ruft	*	

*N.B.* All those mark'd \*, had the gaol-diftemper.

*VII. An Account of the great Alterations which the Islands of Sylley have undergone since the Time of the Antients, who mention them, as to their Number, Extent, and Position: In a Letter to the Rev. Thomas Birch, D.D. Secr. R. S. by the Rev. Mr. Wm Borlase, M. A. F. R. S.*

Reverend Sir,

Read Feb. 8, 1753. **H**AVING made a little tour to the islands of Sylley laft fummer, and finding them very different from what I imagin'd, and from the defcriptions given us of them, and the trade to them, by the ancients, had concluded them to be, you will excufe my fending you an obfervation or two, which occurr'd to me relating to their natural hiftory, and the confiderable alterations, which they muft have undergone, fince they were firft taken notice of in hiftory, and what I think may have been the caufe of thefe alterations.

Thefe iflands being fo noted among the antients, I expected to find among the inhabitants a confcious efteem

esteem of their own antiquity, and of their appearance in history before the other parts of Britain were at all known. I was not without hopes of finding old towns and castles, perhaps inscriptions, and works of grandeur. But there is nothing of this kind; the inhabitants are all new-comers; not an old habitation worth notice; nor any remains of Phenician, Grecian, or Roman art, either in town, castle, port, temple, or sepulchre.

All the antiquities here to be seen are of the rudest Druid times; and, if borrow'd in any measure, from those eastern traders before-mention'd (superstition being very catching and infectious) were borrow'd from their most antient and simple rites.

We are not to think, however, but that Sylley was really inhabited, and as frequently resorted to antiently, as the old historians relate. All the islands (several of which are now without cattle, or inhabitant) by the mains of hedges, walls, foundations of many contiguous houses, and a great number of sepulchral barrows, shew, that they have been fully cultivated, and inhabited.

That they were inhabited by Britons, is past all doubt, not only from their neighbourhood to England, but from the Druid monuments; several rude stone pillars; Circles of stones erect; Kist-vaens without number; Rock-basons; Tolmens; all monuments common in Cornwall and Wales, and equal evidences of the antiquity, religion, and original of the old inhabitants. They have also British names for their little islands, tenements, and creeks.

How came these antient inhabitants then (it may be ask'd) to vanish, so as that the present have no pretensions

pretensions to any affinity or connexion of any kind with them, either in blood, language, or customs? How came they to disappear, and leave so few traces of trade, plenty, or arts, and no posterity, that we can learn, behind them? This is what the curious will be solicitous to know; and two causes of this fact occur'd to me whilst I was at Sylley, which may perhaps satisfy their inquiries: The manifest in-croachments of the sea, and as manifest a subsidence of some parts of the land.

§ 2. The sea is the insatiable monster, which devours these little islands, gorges itself with the earth, sand, clay, and all the yielding parts, and leaves nothing, where it can reach, but the skeleton, the bared rock. The continual advances, which the sea makes upon the low-lands, at present, are plain to all people of observation, and within these last thirty years have been very considerable. What we see happening every day may assure us of what has happen'd in former times; and from the banks of sand and earth giving way to the sea, and the breaches becoming still more open, and irrecoverable, it appears, that repeated tempests have occasion'd a gradual dissolution of the solids for many ages, and as gradual progressive ascendancy of the fluids.

Again; the flats, which stretch from one island to another, are plain evidences of a former union subsisting between many now distinct islands. The flats between Trefcaw, Brêhar, and Sampson, (mark'd *DE* in the map) are quite dry at a spring-tide, and men easily pass dry-shod from one island to another, over sand-banks, (where, upon the shifting of the sands, walls, and ruins are frequently discover'd) upon

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which at full sea there are ten and twelve feet of water. From the southern side of St. Martin's, (mark'd A) in the map annex'd, there stretches out a large shoal towards Trefcaw and St. Mary's; and from St. Mary's, a flat call'd Sandy-bar (mark'd C) shoots away to meet it; and between these two shoals there are but four feet of water, in the chanel call'd Crow-sound: All strong arguments, that these islands were once one continued tract of land, tho' now, as to their low-lands, over-run with the sea and sand. History confirms their former union. "The isles Cassiterides (says "Strabo \*) are ten in number, close to one another; "one of them is desert and unpeopled, the rest are "inhabited." But see how the sea has multiplied these islands; there are now reckon'd one hundred and forty: Into so many fragments are they divided, and yet there are but six inhabited.

§ 3. But no circumstance can shew the great alterations, which have happen'd in the number and extent of these islands more than this; *viz.* that the isle of Sylley, from which the little cluster of these Cyclades takes its name, is no more at present than a high rock, of about a furlong over, whose cliffs hardly any thing but birds can mount, and whose barrenness could never suffer any thing but sea-birds to inhabit it. How then came all these islands to have their general name from such a small and useless plot? From the disposition of the rocks and islets here, and allowing the alterations before suggested, we may answer this question, which would otherwise be extremely difficult to solve.

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From the southermost hill of Brêhar I observed the Guêl hill, and the isle of Guêl (mark'd *I*) stretching away towards the little isle of Sylley, and with it making a curve, of which Sylley is the head-land : from the furthermost hill of Brêhar, a promontory shoots out in the same sweep, and at the extremity, a vast rocky Tor call'd the Brêhar, behind which a ledge of many pointed rocks shew themselves above water, intimating the former connexion, and with what great devastations the furious ocean has dissolv'd it. So that Sylley, which is now a bare rock, and separated from the lands of Guêl and Brêhar by a narrow frith of sea, was formerly join'd to them by low necks of lands, being the rocky promontory of one large island now broke into seven.

To pursue this conjecture (if I may call that so, which has so many reasons to support it) a little farther: When all these seven islands, Sampson, Brêhar, Trefcaw, St. Elen's, Theon, St. Martin's, and St. Mary's, made but one, that one went by the name of Sylley, or some name of like sound and derivation\*; and, having some little islands scatter'd round it, imparted its name to them; whence, what were called by the Greeks Cassiterides, were nam'd by the Latin authors Sygdeles, Sillinæ, or Silures, from the British name, as I apprehend, which they found them call'd by

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\* Sûl-lêh signifies in Cornu-british, flat rocks, of, or dedicated to, the sun. So the mount of St. Michael was call'd in Cornu-british Din-sûl, the hill consecrated to the sun; and, as I conjecture, the vast flat rocks, common in these islands, had the like dedication: For, upon the surface of one of them, there are the remains of an antient Druid temple. It is one plane of rock, edg'd with nine vast stones (the rest taken away) planted in a circular line, measuring 172 feet from north to south, and 138 feet from east to west.

among the natives. I must go farther still, and observe that the promontory (at present call'd Sylley island) lying westernmost of all the high lands, was the first land of all the islands discern'd by traders from the Mediterranean, and Spanish coasts, and, as soon as discover'd, was said to be Sylley; nothing being more usual with sailors, upon their first seeing land, than to call the part by the name of the whole; of which I will not detain you with proofs. But, when this considerable island called Sylley was broke to pieces, the great portions became inhabited, and requiring distinct appellations, had first British names, as Bréhar, Trescaw, Enmor; but as soon as the regulars were placed here (probably in Athelstan's reign, or immediately after) were call'd, according to the religion of the times, after the names of particular saints. The chief division was intituled St. Mary's, in honour of the holy virgin-mother; the others dedicated to St. Nicholas, St. Martin, St. Theon, and so on; but this remarkable promontory (now Sylley isle) being in no wise fit for habitation or devotion, was dedicated to no saint, but left to enjoy its antient name; and, notwithstanding the modern Christian dedications, sailors went on in their old way; this high land is still call'd Sylley, and the islands in general are still denominated, from what was antiently their principal, Sylley isles.

It must have been a very dispiriting circumstance to the old inhabitants, to see the ocean so continually eating away their low-lands, in which they had their treasures of tin, their houses, and ports: but this gradual decay was not the only misfortune, which attended them,

them, neither will it account for the following phenomena.

§ 4. It has been mentioned before, that upon shifting of the sands in the chanel, walls and ruins are frequently seen: There are several phenomena of the same nature, and owing to the same cause, to be seen on these shores, as particularly a strait-lin'd ridge like a causeway, running cross the old town creek (mark'd *H*) in St. Mary's, which is now never seen above water; so that the subsidence, if any, has been different in different places. From the island of Sampson I saw the foundations of hedges (so we call the stone-fences of our fields, which are not built of masonry and cement) running on in a strait line cross the frith *E*, towards Trefcaw isle, till they were hid in sand; which sand, when in its full tide, has from ten to twelve feet water on it. Now we cannot suppose, that the foundation of these hedges was laid as low as high-water mark (for who would build fences upon so dangerous a level?) and if, at a medium, we suppose them to have been laid only six feet above the full tide, I am persuaded it will not be thought an unreasonable calculation. Here then we have the foundations, which were six feet above high-water mark, now ten feet under, which together make a difference as to the level of sixteen feet. To account for this, the flow advances and depredations of the sea will by no means suffice; we must either allow, that the lands inclosed by these hedges have sunk so much lower than they were before; or else we must allow, that, since these lands were inclosed, the whole ocean has been raised sixteen feet perpendicular;  
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which last will appear, Sir, I believe, to the judicious, much the harder and less tenable supposition of the two.

Here then was a great subsidence; the land betwixt Sampson and Trescaw sunk at least sixteen feet, at a moderate computation. This subsidence must have been follow'd by a sudden inundation; and this inundation is likely not only to have destroy'd a great part of the inhabitants, but to have terrified others who survived, and had wherewithal to support themselves elsewhere, into a total desertion of their shatter'd islands. By this means, as I imagine, that considerable people, who were the aborigines, and carried on the tin-trade with the Phenicians, Greeks, and Romans, were reduced to the last gasp. The few poor remains of this desolation, by their necessary attention to food and raiment, must soon have lost sight of their antient prosperity; (for trade will produce plenty, and plenty rightly used will make people happy) and the faint remembrance, that was left of what the islands had been before, expired of itself, in an age or two, through the indigence of the inhabitants.

§ 5. That such an inundation has happen'd here, is still more plain, because these islands are no longer, what they were antiently, fertile in tin; nor are there any remains of such and so many antient workings as could maintain a trade, so greedily coveted by some of the antients, and so industriously concealed by others.

There are no mines to be seen in any of these islands, but only on one load (so we call our tin veins) in Trescaw island, and the workings here are  
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very inconsiderable, and not antient ; and indeed the sides of the cliffs, and the strata of bare rocks, do not shew, that ever there have been any considerable workings there for tin, or give us the least promising circumstance to encourage tin-adventurers. For among such numbers of rocks and cliffs, as I pass'd over in St. Mary's, and the off-islands, nothing surpriz'd me more, than that there should be so few veins in strata formerly so famous for tin. In the cliffs of Cornwall 'tis very different ; you cannot walk on any beach, without perceiving veins of one sort or other, in the clay, rubble, or rock ; but here in Sylley it is generally one continued rock, and the interstices so close, that scarce a knife can get between.

Besides the lead above-mention'd in Trefcaw, I saw a very narrow one in the same island under a place call'd Oliver's battery (marked *K*) but could perceive no metal, either by inspection, or by more than ordinary weight. I saw two veins, about two inches wide, running thro' the rocks on the back of St. Mary's pier ; and a gentleman in company thought he had found one in Porthmellyn (*L*) ; and these are all we could discover, tho' our attention this way seldom left us.

There is one place on Dolphin-Downs, in Trefcaw, where they work'd for tin in the antient manner, which was by laying open the ground in the same way as we now work stone quarries ; and this is every thing I could perceive, in all these islands, which look'd like a working for tin. It must therefore be matter of wonder where the Phenicians, Greeks, and Romans, could have found such a plenty of that useful  
metal.

metal. Whatever resources they had from Cornwall, (formerly reckoned, as I have great reason to think, among the *Cassiterides*) great part of their tin must doubtless have come from these islands; but where it was found is uncertain. Nothing now appears above-ground, which can satisfy such an inquiry. The story of the Phenician vessel mention'd by Strabo to have purposely run ashore, and risk'd the men as well as lost the ship, rather than discover to the Romans the trade to these isles, is well known, and proves beyond all doubt the commerce to have been very advantageous. That the natives had mines, and work'd them, appears from Diodorus Siculus, *lib. 5. ch. 2.* and from Strabo (*Geog. lib. 3.*) who informs us, that Publius Crassus sailing thither, and observing how they work'd their mines, which were not very deep, and that the people lov'd peace, and at their leisure navigation, instructed them how to carry on this trade to better advantage: That is (if I understand him rightly) seeing their mines but shallow, yet well worth working deeper, taught them how to pursue the metal to a greater depth. The question then is, what is become of these mines? And how shall this question be answer'd, but by confessing, that the land, in which these mines were, is now sunk, and bury'd under the sea?

I am not fond of introducing earthquakes, or calling in the powerful subterraneous world to account for the superficial; but where there has been evidently a great subsidence of the earth's surface, I am very willing to refer to better judges than myself, whether it can be accounted for at all, without a previous trembling and concussion of the earth.

Proofs

Proofs are much better drawn from nature than tradition ; but yet I cannot help observing, that what nature declares in this case, tradition seems to confirm ; there being a strong persuasion in the western parts of Cornwall, that formerly there existed a large country betwixt the Lands-end and Sylley, now laid many fathoms under water. The particular arguments, by which they would support this tradition, I forbear to trouble you with, as they may be seen in Mr. Carew's *Survey of Cornwall*, p. 3. and in the last edition of Camden, p. 11. But, if I were to produce them, it should only be to prove, that there was such a tradition, and not as proofs of the matter of fact ; for of that I am very dubious ; the Cassiterides, by the most antient accounts we have of them, appearing always to have been islands. I know it is the opinion of some naturalists, that all islands were formerly join'd to the continent ; but we may, at least in my opinion, as well suppose the several parts of the continent, which are now separated by the branches of the sea, to have been once conjoin'd ; which will prove a great deal too much ; the present intermixtures of land and water being a much more gracious and social disposition, and for that reason more likely to be the true and original one, than so close and compact an union ; and therefore, where there are not shoals, and other evidences of a connexion (as there are none betwixt the Lands-end and Sylley) I think it the safest way not to suppose any.

But tho' there are no evidences, to be depended upon, of any antient connexion of the Land's end and Sylley, yet that the cause of that inundation, which destroy'd much of these islands, might reach also to the Cor-

nish shores, is extremely probable ; there being several evidences of a like subsidence of the land in Mount's-bay. The principal anchoring-place, call'd a lake, is now a haven, or open harbour. The mount, from its Cornish name \*, we must conclude to have stood formerly in a wood, but now at full tide is half a mile in the sea, and not a tree near it ; and in the sandy-beach betwixt the Mount and Penzance, when the sands have been dispersed by violent high tides, I have seen the trunks of several large trees in their natural position, the surface of their section worn smooth by the agitation of the water, sand, and gravel, as if cut with an axe, upon which, at every full tide, there must be twelve feet water ; so that the shores in Sylley, and the neighbouring shores of Cornwall, are equal and concurrent evidences of such a subsidence, and the memory of the inundations, which were the necessary consequences of it, is preserv'd in tradition ; tho' like other traditions, in proportion to their age, obscur'd by fable.

I should now make an apology, Sir, for troubling you with this sketch of the alterations, which the Sylley isles have suffer'd since the age of the antient historians : but because I have no other view in it than testifying my respect to that honourable Society, in which you deservedly hold so eminent a station, that must be my apology. I only beg leave to observe, that, altho' these islands are neither of that extent they were formerly, nor fruitful of tin, nor  
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\* Guavas lake, signifying the grey rock in a wood.

stor'd with such antiquities, as one might expect from their long commerce with the Phenicians, Greeks, and Romans; yet I found them well worth seeing: they are inhabited by an industrious, apprehensive people; their lands, fortifications, and commerce, are capable of great and easy improvements, and their harbours are of the utmost importance to the navigation of this kingdom. I am,

S I R,

Ludgvan, Dec. 21,  
1752.

Your most obedient servant,

Wm. Borlase.

*Extract of another Letter of Mr. Borlase to the  
Rev. Dr. Lyttelton, Dean of Exeter, and  
F. R. S.*

Read Feb. 8, 1753. **T**HAT there has been such a subsidence of the lands belonging to these islands, (as is before supposed) the present ruins of the islands testify. That this subsidence reach'd even to the Mount's-bay, and laid under water a great part of the low lands, then woody, there being now 10 feet water, (as at Sylley over the hedges, so here over the trunks and roots of trees) I have such convincing reasons to lay before you at a proper time, as will exclude all doubt. So that the shores in Sylley, and the shores in Cornwall, are equal proofs of such inundation, and the memory of it is preserv'd in tradition, tho', like other traditions, obscur'd in fable.

When this inundation happen'd, it is perhaps in vain to inquire; but two pieces of history occur to me, which possibly may lead us near the time. In the time of Strabo and Diodorus Siculus, their commerce seems to have been in full vigour; "Abundance of tin carried in carts," says Diodorus Siculus: — "But ten islands in all, (says Strabo) and nine of those inhabited." The destruction therefore of Sylley must be plac'd after the time of these authors; that is after the Augustan age: but at what time after, I find nothing as yet can determine.

Plutarch indeed (of the *Cessation of Oracles*) hints, that the islands round Britain were generally unpeopled in his time. If he includes Sylley among them, then this desolation must have happened between the reign of Trajan, and that of Augustus. However that be, Sylley, tho' not intirely destitute of inhabitants, seems to have been noted for two or three banishments during the empire of the Romans in Britain.

It continued neglected, till trade began to thrive, shipping increase, and naval wars to be carried on in this western world. Then its commodious situation at the opening into both the chanel soon shew'd of what importance it was for Britain to possess it, and how dangerous it might be to the safety and trade of Britain, if in an enemy's hand.

This seems to be the reason, why Athelstan made a voyage to, and conquer'd, these islands. That prince was taught by his grandfather Alfred's wife maxims, that the proper and natural security of Britain lay in the royal navy, and its riches in traffick; and he saw, that neither of them could be well provided

vided for, if Sylley were not subdued as well as Cornwall.

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VIII. *An Account of Mr. Appleby's Process to make Sea-Water fresh; with some Experiments therewith; communicated to the Royal Society, by W. Watson, F. R. S.*

Read Feb. 8, 1753. **T**HE making sea-water fresh has been frequently attempted, and several accounts thereof, from time to time, been communicated to the Royal Society. I thought it therefore not improper to lay before you Mr. Appleby's process for this purpose, in order to its being preserved in the journal-books of the Society. To this I have subjoined some experiments upon the water prepared in Mr. Appleby's manner, made by Mr. Michael Clark, operator at Apothecaries Hall, a person extremely well versed in the theory and practice of chemistry, at the desire, and under the inspection, of the censors of the college of physicians, to whom Mr. Appleby's process was referred by the lords commissioners of the admiralty.

Mr. Appleby's process.

**I**NTO twenty gallons of sea-water put six ounces of a fixed alcali, prepared with quick-lime as strong as *lapis infernalis*, and six ounces of bones calcined  
to

